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ABSTRACT

A kindergarten teacher, two preservice teachers, and a college consultant on educational computer technology designed and developed a 10-day whole-language integrated unit on the theme of Beatrix Potter's "Benjamin Bunny." The project was designed as a demonstration of the potential of integrating the CD-ROM-based version of "Benjamin Bunny" with motivating and effective whole language methods such as shared book, language experience approach lessons, and cooperative learning. During the unit, children read, reread, summarized, and illustrated the story, generating big books and personal minibooks retelling the story. The children also engaged in a social studies/science lesson on cotton and a science project involving the planting of seeds. Both activities also generated language experience stories. Minilessons on word identification and reinforcing letter sounds were incorporated into the unit. Both teachers and students enjoyed and learned much from the "Benjamin Bunny" unit, in a wide variety of skill and subject areas. (Contains 25 references.) (RS)

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# Whole Language, Computers and CD-ROM Technology: A Kindergarten Unit on Benjamin Bunny

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**Whole Language, Computers and CD-ROM Technology: A Kindergarten Unit on Benjamin Bunny**

After a burst of initial enthusiasm about the potential for microcomputers in the teaching of reading and writing, use of computer technology began to wane in the mid-1980's (McClintock, 1988). A "rising tide of criticism" (Balajthy, 1988) of classroom technology was directed at the poor quality of hardware and software, and at teacher ineffectiveness in integrating that technology with meaningful classroom learning.

A variety of educational researchers have examined the failed "microcomputer revolution." Many have identified a major cause of the decline of interest in educational computing to be related to teacher education, enthusiasm, and commitment (Blair, Rupley & Jones, 1986; Cosden, Gerber, Semmel, Goldman & Semmel, 1987; Cuban, 1986). The United States Office of Technology Assessment (1989) surveyed American schools to conclude that the potential of technology remains unexploited due to three major teacher-related factors: Lack of time, lack of access to computers, and lack of support during implementation. These concerns are of special importance at present, as a new wave of classroom

technology offers teachers and students more powerful and simpler computers, voice synthesis, and integration with video hardware.

The Benjamin Bunny project was a joint effort of a college teacher education department and a local elementary school. The project team consisted of one college consultant on educational computer technology, two preservice teachers with a comprehensive knowledge of whole language approaches, and a creative kindergarten teacher with a rich background in classroom methods and a willingness to experiment with whole language integrated units.

The kindergarten teacher identified Beatrix Potter's Benjamin Bunny as one potential central unit theme. The preservice teachers, in consultation with the college consultant and kindergarten teacher, then designed and helped teach a 10-day integrated unit on the theme. The unit included an important new technology, CD-ROM-based software. A CD-ROM is similar to the commonly available computer disk, in that it is a memory storage device used in a disk drive. It is, however, based on newer laser technology that makes each CD-ROM disk capable of storing far more digital information than a standard disk drive. This gives the potential of offering sophisticated graphics and voice synthesis when used with a microcomputer with sufficient memory. The project was designed as a

demonstration of the potential of integrating new technologies with motivating and effective whole language methods such as shared book and language experience approach lessons and cooperative learning.

The technological centerpiece of the unit was the CD-ROM-based software entitled Benjamin Bunny (Discis Knowledge Research, 1990). The software presented Potter's story page by page on the right side of a color Macintosh computer screen. On the left side of the screen were reproductions of the artwork from the original book. The computer and software sophistication allowed the artwork to be much more realistic than computer graphics typical on most classroom computers today.

In addition to being able to page backwards and forwards through the electronic book, children were able to use a computer mouse device to point a cursor at any word on the screen. Upon pressing the mouse button, the word would be pronounced aloud. Another button press would yield the definition and a sample sentence. Children could also point the mouse to components of the artwork and obtain an explanation of the picture by pressing the mouse button. For instance, by pointing to a picture of a little bunny, children would received a voice synthesized explanation that the picture was of Benjamin.

On Day 1, children were led through a Directed Reading-Thinking

Activity (Stauffer, 1968) using the Benjamin Bunny software, involving them actively in predicting and discussing story contents. The lesson served both as an introductory and motivational reading of the book and as an introduction to the children on the use of the software. One advantage of the greatly increased memory available on newer computer models is that the software design can be made easier to use, as the computer itself is able to perform many tasks. Children quickly caught on to the basic operation of the program. At the end of the lesson, the teachers divided the class into two groups of 10 students each and led them in writing a summary of the book on large poster paper, in language experience fashion.

Those summaries were typed using a word processor overnight by the teachers and laser-printed out in a large font, one line per page, to create a big book for each group. The book contained a title page, with title, classroom authors, and classroom illustrators, as well as a dedication page. Teachers introduced the big books to each group in a Shared Book Lesson (Holdaway, 1979), emphasizing choral reading and engaging children in relevant minilessons (Calkins, 1983), as well as brief word identification and comprehension activities. After the reading, each child was given one page of the big book to illustrate. The finished big books were finally reassembled and reread.

On Day 3, children were given personal minibooks to read with the teacher, illustrate and keep. The small, 12-page, 8 1/2 by 11 inch minibooks had also been laser-printed by computer the night before, with the same story summary as in their big book.

On Day 4, one group students under teacher supervision worked with the CD-ROM software to reread and discuss the software. The other group continued with Shared Book readings of their big book. The teacher in charge led them into more detailed discussion of both the pictures, words, and story during this lesson. Children, for example, were asked to find the "garden" in their picture, then find the word "garden" in the print at the bottom of the page. Later in the period, the groups switched activities.

Day 5 led the class into a social studies/science lesson on cotton. The children related the topic to the book, thinking of "Peter Cotton Tail" and of the similarity between cotton and bunny fur. The teachers presented some raw cotton, finished cotton, and cotton clothing to the class for discussion and talked about how cotton is grown and manufactured into cloth. Then the teachers elicited a language experience story from the children and wrote it on large poster paper. Activities involving rereading and word identification followed, as is common in such language experience approach lessons (Allen, 1976).

On Day 6, the language experience lesson continued with sequencing activities. In small groups, children were presented printed sentences from their language experience story on cotton. They cooperatively sequenced the sentences to recreate the story in correct order.

In the previous readings of Benjamin Bunny and the experience stories, several letter sounds had received significant attention. For Day 7, the teachers prepared large-type, computer-printed posters of these sounds, the /b/ sound in "bunny", the /e/ sound in "egg", the /g/ sound in "garden", and the /p/ sound in "Peter". Each poster contained a variety of words, as for instance: bunny, Benjamin, best bonnet, Beatrix, basket, and bean. The teachers used the posters to stimulate students' recall and discussion of the stories, asking questions and pointing to the appropriate written words as they were spoken, as "What were Benjamin Bunny and Peter Rabbit doing that got them into trouble?" The lesson included a emphasis on values and decisionmaking about one's behavior, as reflected by the story.

Then students engaged in a science project involving planting seeds. With discussion of their activities in relation to ecology and the environment, they used egg shells partly filled with potting soil and supported in a section of egg carton to plant grass seeds and premoistened

lima been seeds. The lessons ended with predictions as to what would happen with the seeds and creation of a chart on the computer for recording observations and plotting plant growth each day.

On Day 8, children were shown a filmstrip on the function of seeds. After discussing the filmstrip in relation to the cotton, bean, and grass seeds seen earlier in the unit, and checking for progress in seed growth, the teacher read them the Beatrix Potter book, The Little Seeds That Grew.

Children again used the CD-ROM software to reread Benjamin Bunny on Day 9. The teacher also used an oral modified cloze exercise with the children to review the story and reinforce learning of letter sounds.

Finally, on Day 10, small groups of children worked on the computer word processing software to create a bunny shopping list, discussing what they thought a bunny would like to buy at the grocery. The teacher doing the typing used the activity for some short minilessons on word identification. After an art activity in which they made bunny ears to wear, the class was given a party with bunny snacks of celery sticks filled with cream cheese or peanut butter, topped with raisins.

## Conclusions

A variety of authors have answered affirmatively to the question, "Is there a place for computers in whole language classrooms?" (Balajthy, 1989; DeGroff, 1990; Strickland, Feeley & Wepner, 1987). Our conclusions from the Benjamin Bunny project showed clearly that word processing using large-type fonts and a photocopy machine for duplication can be conveniently used to make both big books and minibooks for young children. A laser printer or newer model, high quality dot matrix printer gives a polished, professional look to the books.

Also of importance to whole language approaches are the increasingly available electronic text editions of children's books and stories. Some, such as the Houghton Mifflin Early Reading series make use of older computer systems that are popularly available in today's classrooms to provide stories such as Else Homelund Minarik's Little Bear and Emily or Judith Viorst's Alexander and the Terrible, Horrible, No Good Very Bad Day. Other more sophisticated systems that give superior voice synthesis, graphics, and ease of use are gradually coming on the market.

Both teachers and students enjoyed and learned much from the Benjamin Bunny unit, in a wide variety of skill and subject areas. Even after the unit concluded, the children remembered the CD-ROM story program and the big books with enthusiasm. They especially enjoyed

working on their individual versions of the big book, since these minibooks had their own story to read, color and bring home to their parents as they saw fit.

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